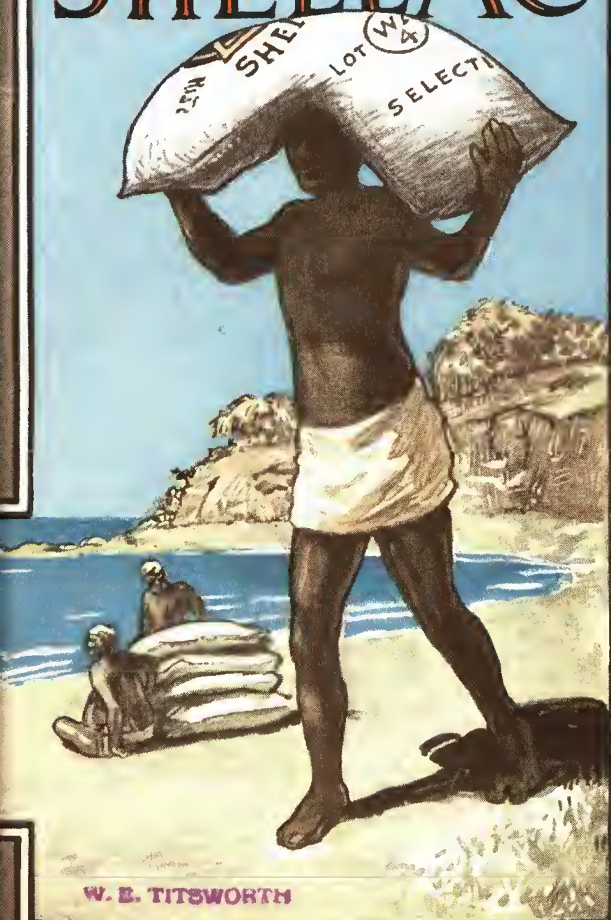


The Story of **SHELLAC**



W. E. TITSWORTH

THE following booklets concerning
shellac, its origin, manufacture and use
are ready for distribution upon request:

- SHELLAC AND ITS USES (*illustrated*)
HOW SHELLAC IS MADE (*illustrated*)
LAUGHING AT THE WEATHER MAN
READIN', RITIN' AND RITHMETIC
BULLS-I-NAMEL
(*Our New Shellac Enamel in Colors*)
AN OLD STORY
FIX IT WITH BULLS EYE WOOD CEMENT
ONE PER CENT IN TEN DAYS
(*A Frank Talk on Terms*)

1 9 2 8

This is the fifteenth reprint of
this booklet, the first edition
having been issued in 1913.

Printed in U. S. A.

The Story of Shellac

THE use of Shellac dates back to Sanskrit, being recorded among the oldest products of the ancient Hindus. But, after shellac had served its purpose, for ornaments and the coloring for trinkets, later as a commercial dye product; and still later when the Germans discovered synthetic (coal tar anilines) dyes, it was found that shellac had so many properties, both in its gum state and when used in connection with different solvents, that there is scarcely an industry which has not benefited by its use. There are few products which have more uses than shellac has. Yet, so very little is known about shellac that nine men in ten who use it do not even know what shellac is.

Correspondingly, they do not know how to tell when they are getting good shellac or inferior shellac. They do not know how to protect themselves against imitations that will not do the work shellac will do. They do not know why one man finds shellac the most reliable of aids, while another man has trouble using it.

It is the purpose of this booklet to tell the plain facts about shellac, so that every user of shellac will be able to get the utmost possible benefit from this most wonderful of products.

Uses of Shellac

WOOD-WORKERS of all descriptions have always used shellac as a primer. No other medium has ever been developed which so thoroughly meets the requirements of their work. Wood-workers prefer shellac because it is easy-working and remarkably quick drying, saving labor and expensive time. In addition, it is tough, durable and very elastic, so that it provides a perfect undercoating for any other finish.

The popularity of quick drying finishes—due to the present day lacquer vogue—has brought shellac more

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to the front than ever. It was not so many years ago that anything which dried fast was assumed by the ignorant to have no wearing qualities. To-day the world knows better and shellac, the toughest, oldest and best liked of rapid finishes for inside work is not only recommended as a lacquer undercoating, but most of the good lacquers of to-day contain a goodly percentage of shellac.

Where light-colored tints or white finishes are desired, the undercoat of shellac absolutely prevents streaking and stains due to sap working through from knots. Any one who has ever looked at fine white woodwork marred by dirty brown sap streaks will appreciate the importance of this—and shellac is the one medium that absolutely "kills" this trouble.

Where natural wood finish is desired, shellac excels because it so strikingly brings out the beauty of the grain. As a finish coat shellac is far superior to oil varnish, because it can so easily be treated to avoid that glassy shininess which modern people dislike because it is so cheaply "new-looking." With a very little work shellac can be made to give the fine, dull gloss that always goes with antique furniture—and furniture so finished will have the desired appearance of stability and luxurious good taste which the public demands.

Even the most ardent lacquer enthusiasts admit that it gives a "dead" finish—almost a perpetual bloom—when compared to the variety of shading and the enhancement of the appearance of the grain where pure white shellac is used.

Many Other Uses Little Known

BUT the immense value of shellac to the furniture and wood-working industries is only an indication of the many other uses for which shellac has been found unequalled.

As the science of electricity developed, it became absolutely necessary to find an insulator that would be a total non-conductor of electricity and an effec-

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tive bar to dampness. Shellac answered the problem, and there is scarcely an electrical device—from small motors to huge generators, simple switch cabinets to intricate radio circuits—in which shellac is not used as an insulator.

Imitation ivory products, such as billiard balls and poker chips are made from shellac. Shellac is the "snap" in playing cards. The buttons on your suit are probably made from shellac. Shellac is the principal "size" or stiffening used in the manufacture of hats. Telephone receivers and mouthpieces, phonograph records, sealing wax, light-drying inks, shoe dressings, are all dependent upon shellac *and nothing else will do as well.*

Shellac is the artful finisher for leather, imitation leather, hardwood floors, pencils, rulers, broom and brush handles, glazed papers, pianos, and what not.

It is used as an adhesive between certain metals. It is necessary to foundry pattern makers. It is the cement which makes bristles adhere in brushes. As a seal for important documents and letters it has no equal.

It stands alone for filling blemishes in wood or marble and similar substances.

With all of these many uses, the chemical composition of shellac is not completely known, because shellac is the product of an insect, not of a plant, and the chemists have never been able to find out how to make it synthetically.

As a result, no satisfactory substitute for shellac has ever been developed, and it is extremely probable that none ever will be. Therefore, it is very important to every user of shellac to be very sure that he is getting *shellac* free from adulterations, *properly manufactured*, and honestly branded.

What Shellac Is

MOST people think shellac is a sap drawn from trees, similar to the way rubber, rosin or turpentine is collected.

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Lac Bugs attached to the branch of a Lac tree. Male, female and young Lac insects greatly magnified

But this is not so. Shellac is not a product of plant life. It is a product of animal life.

And just as the animal product—wool—is very superior to the plant product, cotton, shellac is superior to the vegetable products that are sold to do the work shellac does.

In fact, just because it is an animal product, shellac has many uses for which nothing else will do, and because it is so unequalled for so many

uses, shellac has made its own place in the industrial world. Shellac is given to the world by a tiny red insect no larger than an apple seed, which drinks the sap of trees in India and Siam.

Thousands of millions of these little bugs swarm upon the branches of certain types of trees in these countries; they feed, they propagate, they die.

And, in doing so, they produce a gum that all the famous laboratories in the world cannot copy. These tiny red insects contain within themselves the ability to take tree sap within their bodies and subject it to chemical changes that are still a mystery to science.

The Feast of Death

FIRST the swarm of little bugs picks out the tree or trees to be used for feeding purposes. Then each bug inserts a stinger-like proboscis through the bark and into the meat of the tree.

The feast of death has commenced.

Meanwhile the male bugs are fertilizing the females, each of which will produce about one thousand eggs before dying.

After the males fertilize the females, they also start the feast of death.

From then on all the bugs eat continuously from the sap of the tree. This sap undergoes the mystifying chemical transformation and is then exuded by the bugs and forms a hard, shell-like covering over the body of the bug. Gradually the exudation from each bug meets and joins the exudation of the neighboring bugs and finally all the bugs are a part of one complete crust.

The male and female bugs both become inactive under this crust and then die. Their bodies have become a tomb and at the same time, an incubator for the next generation of bugs.

In the sixth or seventh month the young begin to break through the crust, and they swarm to new feeding grounds.

Stick-lac and Grain-lac

A SHORT time after the young have swarmed to a new place, the natives begin the harvest of this shell-like crust, known as Stick-lac, from the old swarming place. Only one crop is taken from a single tree in a year. Young are hatched, however, twice a year. The natives gather millions of these incrustated twigs and assemble them to be taken to a factory where the incrustations are removed, or they may take a wooden mallet into the orchard or forest and break the incrustations off right at the start, quite as ice would be broken from around a tree branch. The latter method produces what is known as Grain-lac. In either case it is the first step in the harvest of the raw shellac gum.

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Lac trees—a completely denuded tree in the foreground

When the Stick-lac or Grain-lac is assembled at the factory, which is, indeed, even today a crude establishment, it is usually placed between two great stones, not unlike the grain-grinding stones used by the American Indians, and ground, usually by women, sufficiently to remove the remains of the parent bugs, sticks and other dirt. This crudely ground lac is then sifted and

separated into three classes, the most important of which is the Seed Lac, retained for commercial purposes. The second class, containing fragments of branches and other dirt, is often used as fuel, while the third product, consisting mainly of very small fragments of lac and dirt, known as Khud, becomes a commercial product and is sold to makers of trinkets and toys.

Seed-lac

THE Seed-lac, in being prepared for the market, is washed and soaked for about twenty-four hours to rid it of the coloring matter or dye. It is again put through a grinder. The resiliency or bending quality is one of the most valuable of the several physical characteristics of pure shellac and every effort is made to maintain it. For that reason the United States Shellac Importers Association has made regulations which successfully keep out of this country shellac which has more than a small minimum of adulterant.

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After being ground the Seed-lac is placed in large cloth bags, about twelve feet long and two to three inches in diameter. These bags are then warmed before an open fire and twisted to wring out the melted lac.

Shellac

THE lac drips to the floor on tiles or wet plantain leaves and is caught up while still warm and partly molten, by a native who stretches it into thin sheets. He places one corner between his teeth, two



Melting the Seed-Lac before an open fire

other corners under either foot and then with a hand on either side stretches the mass until it becomes a very thin, parchment-like sheet thereafter easily broken up into flakes, the form in which it is shipped in gunny sacks weighing about 164 pounds (two maunds) each.

Shellac Cultivation

WHILE the lac bugs remain relatively constant in the community where they are once established, the growers see to it that the district is not denuded at each successive harvest. Accordingly, they cut lac-bearing branches from healthy, well-filled trees about a fortnight before the young are due to emerge.

These cut branches are hung in bamboo baskets or in crude native receptacles in other trees, thus bringing new trees into bearing or mixing new shellac blood into the district, crossing the breed as in any other plant or vegetable breeding process.

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The Indian Government maintains a large research laboratory and experimental station known as "The Indian Lac Association for Research," which is supported by a small tax on every pound exported and which is studying continuously to improve the quality of shellac and the methods of growing and collecting it.

From India to You

THE world's output of shellac, on an average, about 42,000,000 pounds a year in the raw or gum state, is shipped from the port of Calcutta. In its raw condition it is always referred to as a gum. There are essentially two crops a year, although these come so as to be divided into four seasons as follows:

| | |
|----------------------------------|-----------------|
| The Bysaki crop of April..... | 25,000,000 lbs. |
| The Jetowa crop of August..... | 1,300,000 lbs. |
| The Rungeen crop of October..... | 3,600,000 lbs. |
| The Koosmi crop of December..... | 11,500,000 lbs. |

Shellac gum is of two general grades or classifications, namely, Orange Shellac and Garnet Lac. Button Lac is sometimes given as the third, but it is in reality a grade of Orange Shellac.

Some users buy Orange Shellac gum—but even they cannot safely content themselves with simply buying direct from the export brokers. There are practically five gradings of Orange Shellac alone—and it takes an expert knowledge of shellac to select from these grades and then know how to be sure the proper selection is delivered.

Orange Shellac

THESE various grades of Orange Shellac are known under five general terms, according to quality, ranging from the lowest or basic grade, up, as follows: TN (Truly Native), Good, Fine, Superfine, and Superior. These grades, with the exception of TN have many distinguishing or proprietary marks among which are: WZ 1 and 4, WZ Special, Double Triangle G, DC, VSO, ASO. There are many others

but these marks are recognized as ranging from Light to Extra or Ultra Light Orange. TN is the lowest and cheapest grade of Orange Shellac, being just above the Garnet quality.

More than 50 per cent. of all shellac gum exported from Calcutta is TN (Truly Native). It contains more residue and dirt than the Good, Fine, Superfine and Superior grades. WZ 1, for instance, is one grade lighter and better than TN; WZ 4 is a selected Superfine grade. TN is used where color is not a factor and cheapness is required. WZ Special, DC, VSO, Double Triangle G, and similar grades of which there are some other marks not so widely known, are grades above the WZ 4 Superfine grade.

Garnet Lac is shellac gum either pure or adulterated, from which the dye has not been removed. Button Lac is ordinary Shellac Gum, usually from medium to good grade, melted into button shape rather than flakes. "Kala" is a name given to the dirtiest of Garnet Lac and the refuse from other grades. "Keerie" is a refuse shellac salvaged from the cloth sacks in which ordinary shellac is melted. It is seldom more than 50 per cent. lac.

But complicated as it may seem to select from the above grades, the especial grade of Orange Shellac gum desired, there are further complications facing the average user of shellac.



Cooled molten Shellac stretched into thin sheets prior to breaking into flakes

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Few users are in position to use plain Orange Shellac Gum without submitting it to other treatment before it is ready for their particular uses.

For instance, many users of *gum* shellac cannot use Orange colored gum. They require colorless gum and as all shellac gum is orange or garnet colored, it must be bleached before this class of users can enjoy the advantages of using shellac.

This, in itself, is a highly specialized industry and demands an exceedingly costly installation of machinery.

Still other users cannot use shellac in gum form—it must be reduced to a liquid—and for this, another and different type of expensive factory installation is required.

And a great number of users can utilize only *colorless liquid* shellac and before the raw shellac gum is ready for them it must be both bleached and liquified.

“Free,” “Matted” and “Blocked”

THERE is one characteristic of shellac that needs explanation, that is its tendency to become “matted” or “blocked” while in transit from India during the Spring and Summer months. Shellac shipped from India between May 15th and November 15th, which means shellac arriving in the United States between July 15th and January 15th, has to pass through intense tropical weather en route. The heat causes the shellac flakes to stick together, sometimes only slightly, so that they can be “freed” by hand, when the shellac is said to be “matted,” and at other times so much so, that the shellac becomes like stone and has to be broken up and ground. In this latter condition the shellac is spoken of as being “blocked.” When shellac arrives in flaky condition, it is said to be “free.” In order to have “free” shellac between October 1st and February 1st, United States importers have to buy six to nine months ahead as it takes sixty to ninety days for cargoes to reach New York after leaving Calcutta. The quality of “freed” or “ground” shellac is just as good as

flake or "free" shellac, but its appearance is not as attractive, of course.

Bleaching and Liquifying

AFTER the raw Shellac Gum has been delivered to this country—usually New York City—it is delivered to the factory for preparation for the market.

A visit through one of these plants—such as the one operated in New York by William Zinsser and Company—would amaze the average user of shellac who is accustomed to thinking of shellac as a rather pleasant smelling liquid that comes in bottles, cans and barrels.

He would see great vats, tremendous cookers, and a huge, powerful vacuum-drying system, all devoted to the preparation of bleached gum shellac and bleached liquid shellac.

It is in the bleaching and manufacturing of liquid shellac that skill, equipment, knowledge, *and honesty* are absolutely indispensable. It is no business for an amateur.

If the shellac is improperly bleached, it will not hold its color, will quickly darken, thus destroying its usefulness for a great many classes of users.

But, more important than the bleaching, is the drying after the bleaching, for shellac must be made dryer than the proverbial bone before it can be properly liquified in alcohol.

The reason for this is that the bleaching chemicals plus the water used with these chemicals, must be thoroughly, completely and absolutely extracted before the bleached gum is put in the alcohol, which dissolves the gum and holds it in liquified condition for the user.*

The shellac you buy will be only as good as the skill and integrity of the men who prepare it for you.

**Would you like to take a trip through the most modern of Shellac Factories? We will gladly send you our illustrated Factory number of the "Bulls-Eye"—it shows you everything.*

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And in these days of slovenly work and unscrupulous adulteration, *that* is a very important item to remember, for an improperly prepared shellac or a dishonestly adulterated shellac will cause nothing but trouble. Many a wood finisher has seen a fine job spoiled when he sanded the finish coat, simply because some one had adulterated the shellac with rosin or shellac substitute or even water, thus causing the coat to melt and become sticky and uneven under rubbing friction.

How to Be Sure

THERE is just one way to be sure that you are getting what you pay for when you buy shellac—buy the product of a reputable house which has the facilities, skill, experience and business connections to guarantee *quality* from the time the raw gum is gathered to the delivery of the finished product.

There are only a few houses of this description in the entire United States.

The oldest of these is the house of William Zinsser and Company, Inc., which was founded in 1849.

The third generation of the same family is still in control of the business and at no time over a spread of more than 75 years was financial reorganization necessary. This is quite a record in itself—but the Zinssers never were speculators.

Their success is best proven by their growth. The small factory established in New York City in 1849 has become a very large one and still another has been built at Chicago to take care of the great volume of Western business.

Shellac manufactured and marketed by William Zinsser and Company leaves nothing to the imagination and nothing to chance. The buyer need never be in doubt. The record of seventy-five years of honestly gained reputation is the best proof that any Zinsser product is *what it claims to be*.

And any claim made for Zinsser shellac is made plainly, without any misleading words. When Zinsser shellac is labeled "Pure" it means *just that*.

Furthermore, the formula is on the label, telling just how much shellac is used to the gallon of alcohol and the *grade* of the alcohol is always plainly marked. Users of *Gum Shellac* likewise find safety in dealing with the house of Zinsser. Zinsser Gum Shellacs are safe because they really are shellac, properly graded and carefully analyzed.

Zinsser Bleaching

THE bleaching process is a difficult, delicate and complicated one, but in laymen's language it may be described as follows: Orange shellac gum is dissolved in a hot water solution of borax or soda as the first step in the bleaching process. While it is in this liquid state chlorine gas or a similar bleaching agent is introduced until the color has been bleached from Orange to White. The shellac is then precipitated out of the solution by means of an acid and there begins a slow and laborious process of drying.

At any rate the process *was* slow and laborious until recent years when a system of vacuum-drying was perfected by William Zinsser and Company, Inc., who as the oldest shellac-bleaching firm in the United States, had also inaugurated the method of making Bone-dry White Shellac here as still used by their competitors with but few modifications during all these years.

This antiquated method consists of placing the still wet, precipitated shellac gum, broken or crushed into small pieces, in flat trays, setting them in tiers on racks in a warm room. By exposure to air and the heat of the room the shellac is dried in from *five* to *fourteen* days, depending upon the condition of the weather. William Zinsser and Company has discarded this method for the newer, better way they have developed, but the other large houses are still using the original, but antiquated, Zinsser method of drying. It will not be long before all of the best shellac bleachers will be forced to come to this modern method of drying.

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Vac-Dry White Shellac

WHEN William Zinsser and Company perfected the vacuum-drying process, and applied it to the shellac industry, the time required for drying was greatly reduced and a superior product, a new white shellac known as Vac-dry, was introduced and registered at the U. S. Patent Office.

Therefore, while Bone-dry is White Shellac, just the same as Vac-dry is White Shellac, the former is the old-fashioned bleached shellac, while the latter is the *modern* bleached shellac.

The advantage of the modern method is that the chemicals are extracted from the shellac in a small fraction of the time formerly required, and this is very advantageous to the user, because the longer chemicals are allowed to stay in the shellac, the more danger there is of the shellac darkening after it has been put in alcohol, ready for use.

Another advantage of the Zinsser Vac-dry method is that only a small amount of heat is necessary, thus preventing the heat damage found in the old way.

Every one knows that the atmosphere in a room can be very hot and yet be very moist. For instance, on hot summer days, when the humidity is high, a room will be at the temperature required for shellac drying, but the air will be moist and the shellac *can't* be properly dried. This is one of the great disadvantages of the old method which William Zinsser and Company has discarded, and the difference in results between ordinary Bone-dry shellac and Zinsser Vac-dry shellac is apparent to any one who has used both kinds.

Vac-dry shellac, by laboratory and practical test, has been found to cut and dissolve more quickly and to remain soluble longer than the old-fashioned Bone-dry. It has a lower moisture content, and it is particularly claimed for Vac-dry that, being made in so precise and scientific a way, it is not subject to even the small percentage of insolubility that sometimes characterizes Bone-dry White-Shellac.

About "Blocking" in Hot Weather

USERS of White Shellac gum should bear in mind that in hot weather bleached shellac has a tendency to block or run together and harden while in transit or storage.

Vacuum drying has, however, cut this down to a minimum.

This in no way affects the quality of the shellac, but, as large lumps will not dissolve readily, it is necessary to regrind the shellac. To avoid this, some regular users purchase their supply before hot weather starts and make up a thick or heavy solution at once, thinning this solution as required.

This is also a good plan when the shellac is not to be used for some time, as bleached shellac may become partly insoluble after a period of time, under certain conditions.

White Hank Shellac for Water Solution

HANK SHELLAC is a form of bleached shellac which, instead of being ground, is pulled into hanks or twists. White Shellac, in this form, contains 25 per cent. of moisture, and is sold with this understanding.

Hank shellac is cheaper than dried White Shellac, because the labor and cost of the drying process are eliminated. White Shellac hanks find a market wherever an alkali-water solution is used, as, for instance, in hat stiffening, and where the presence of a small amount of water does no harm.

Refined White Shellac

ANOTHER variety of White Shellac Gum is made in both the Bone-dry and the hank form and is called refined White Shellac. This variety is made from a better than TN grade of Orange Shellac Gum and, as the name implies, it is refined and filtered, the wax which is in shellac gum being removed. Although in the gum form it is very similar in appear-

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ance to ordinary White Shellac, when dissolved in alcohol a big difference is noticeable. A translucent and almost clear solution is obtained. French varnishes and lacquers of finest quality are made from the refined White Shellac gum, though, in order to get an absolutely clear solution, it is necessary to filter.

Refined Shellac Gum is one of the important parts of the modern Cellulose lacquers. In fact it is this gum which adds many of the desirable properties to the lacquer—now made so extensively. Prior to the use of Shellac Gum, clear lacquer and lacquer enamels were little more than straight solutions of gun cotton to which a pigment may have been added.

This lack of solid matter made a large number of coats necessary before any visible thickness of film could be produced. It lacked adhesive properties, or sticking power; it could be stripped off quite easily under certain *conditions*; and it lacked durability under outside exposure.

These faults are overcome or lessened at least, by the addition of suitable gums or resins. Refined Shellac Gum is preferred by the manufacturers of the highest grade lacquers, because of its many advantages over the cheaper gums and resins. It is, of course, very essential that a Refined Shellac uniform in quality, light in color, and with an absolute minimum amount of moisture be used.

Cut Shellac for the Painting and Decorating Trades

BOTH Orange and White Shellacs are used in liquid form by painters, decorators and finishers. The furniture manufacturers use very large quantities.

Users in these classes generally buy the shellac in liquid form, or, as the trade has it, "cut" in alcohol. It is right here that this class of shellac buyer is at the mercy of the unscrupulous manufacturer or jobber of shellac.

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The user cannot tell from looking, whether the shellac solution he buys contains 5 pounds, 4½ pounds, or 4 pounds of shellac to the gallon of alcohol. He must leave all this to the honesty of the manufacturer.

Such apparently slight differences as a few degrees in the grade of the alcohol, or a half a pound of shellac to the gallon, make really big differences in working results, and several years ago William Zinsser and Company again pioneered by protecting the buyer through plainly labeled containers *that told the exact formula used*.

In addition, this company wants every user of liquid shellac to know that one way to test a shellac is in its drying time. The purer the shellac, the quicker it dries. Turpentine varnishes are just the reverse—the purer they are, the longer they take to dry, and a turpentine varnish that dries quickly is generally adulterated with benzine or resins.

Of course, some people *can* use adulterated or compounded shellacs as make-shifts where pure shellac is not required, such as in the coating of cheap wooden articles. However, this type of finish is good for only a short time and will not wear.

William Zinsser and Company makes such a shellac substitute for those who have need of it, but they refuse to allow it to be called shellac—or any name like it—and it is marketed under the trade-name, ZINLAC. The quality of shellac is not claimed for this compound, but for certain uses it is satisfactory.

Grades of Bulls-Eye Liquid Shellac

PURE shellac varnish is heavy or light (thick or thin) according to its proportion to the alcohol in which it is dissolved.

William Zinsser and Company's pure shellac is always sold under the trade-marked name, "Bulls-

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Eye," and it is regularly made in three "cuts" or weights, namely:

4, 4½ and 5 pounds of shellac to the gallon of Specially Denatured alcohol, formula No. 1, which is 190 degrees proof. These weights and formulas are clearly printed on every package from 1/8-pint bottles up to barrels sold by this company. Other weights are made to satisfy certain users, 7, 10 or 12 pounds of shellac to a gallon of alcohol being the most used of the heavier grades.

William Zinsser and Company, Inc., of New York and Chicago, besides being the original shellac bleachers in this country, and the exclusive makers of Vac-dry, also have the distinction of being the *first* shellac manufacturers to label their shellac varnishes for purity and weight as a guarantee against the use of shellac varnishes into which resins or cheap adulterants have been introduced.

Warning!

UNTIL recently many quick-drying varnishes and alcoholic solutions have been sold under the name of "Shellac" whereas they have been cheap substitutes for shellac or highly adulterated liquid shellac, for which no satisfactory substitute has ever been found, the reputable manufacturers have adopted resolutions for the protection of the jobber, dealer and consumer of shellac. These resolutions have been unanimously passed by the American Paint & Varnish Manufacturers Assn., the National Paint, Oil and Varnish Assn., the National Association of Paint Distributors and have the unqualified endorsement of the U. S. Shellac Importers Assn., and the American Bleached Shellac Manufacturers Assn.

The definitions of the various forms of shellac as sold in this country under the resolutions are as follows:

SHELLAC, meaning pure solution of shellac gum and alcohol only. Therefore, any solution

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or varnish called "shellac" should be pure shellac, if the maker is honest.

SHELLAC COMPOUND, meaning a shellac and alcohol solution that contains adulteration in the form of other varnish gums. A shellac compound must contain among other solid contents, 50% or more shellac gum dissolved in alcohol. A good shellac compound should contain much more than 50% shellac gum.

SHELLAC SUBSTITUTE, meaning a shellac solution or varnish that contains of its solid contents less than 50% shellac gum dissolved in alcohol, and yet pretends to be or take the place of shellac or shellac compound.

As will be seen, the various associations of men interested in the manufacture, sale, or use of paints and shellacs, have done and are doing all they can to reform the unscrupulous manufacturers or dealers who misbrand shellacs. And the United States Government, through the Federal Trade Commission and with the assistance of the Unfair Competition Bureau will proceed against those misrepresenting Shellac.

Thus William Zinsser and Company's policy of labeling shellac for purity during the fifteen years prior to 1922 was vindicated. Its pure shellacs always were labeled "Pure" and its compound shellacs have always been labeled to show they were not pure, and its substitute has always been known as ZINLAC.

This company still is a step ahead in labeling its goods not only "Pure" or "Compound," but with the formula and the grade of alcohol used on all packages from barrels to cans and bottles. Shellac users should buy properly labeled and trusted material to be sure of getting genuine shellac results.

Shellac Qualities

THERE are many purposes for which shellac varnish is entirely unsuited and never should be used. But for certain definite and specific purposes, shellac has

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no equal. The fact that it is an animal gum differentiates it from all other varnish gums—all of which are of vegetable origin—and gives it its unique qualities and characteristics.

Where the time limit comes into play, there is nothing that can compete with shellac. It is prized because of its varnishing properties. It can be highly polished when dry and because it is translucent, and in the case of the white variety, transparent, it brings out the grain of the wood.

Adulterated shellac varnish has caused much trouble which never would have occurred if pure shellac had been used, but, unfortunately, the shellac, and not the adulteration, was blamed.

Today, however, shellac of guaranteed weight and purity can be bought from all reputable shellac concerns provided the purchaser is willing to pay for it.

Adulterated shellac dries slower and does not dry as hard as pure shellac. It cracks and chips off, necessitating more time and expense to achieve a finished job, and it gums when sanded.

After all, there is one safe way to secure the kind of finish every true craftsman desires. There is no need to buy blindly or work in the dark with unknown materials.

William Zinsser and Company has for fifteen years stood in the forefront by telling ON THE LABEL the exact grade, quality, weight and measure of its liquid shellacs. The furniture manufacturer, painter, decorator, hardwood floor finisher—*any* user—who insists upon shellac protected with William Zinsser and Company's label, will buy knowingly, and finished results will *show* that he has bought wisely and well.

So, insist upon *Bulls-Eye shellacs* for your profits' sake—and for the sake of your pride in the work you or your employees do. Every grade of shellac bearing that label is *honest* and the best that can be made for the particular purpose for which it is made.

WILLIAM ZINSSER & Co., INC.

And, in closing, just remember that William Zinsser and Company has been *first* in the shellac industry since 1849. They were first to discover how to make shellac bone-dry. Their competitors are still using the method they developed.

They were *first* to develop the superior vacuum method of drying—and positively no other manufacturer of shellac can claim his shellac is VAC-DRY because no other manufacturer has the equipment to make VAC-DRY and the name itself is the registered property of this company.

Last—but very, very far from least—William Zinsser and Company was *first* to label every package with its true formula. And first to demand that all other manufacturers be honest in their labeling.

There is a deal of mental satisfaction in buying the product of a firm that has always conducted itself on such absolutely fair and equitable lines. You can have that satisfaction by always demanding the Bulls-Eye label on the shellac you buy.



WILLIAM ZINSSER & Co., INC.

NEW YORK

CHICAGO

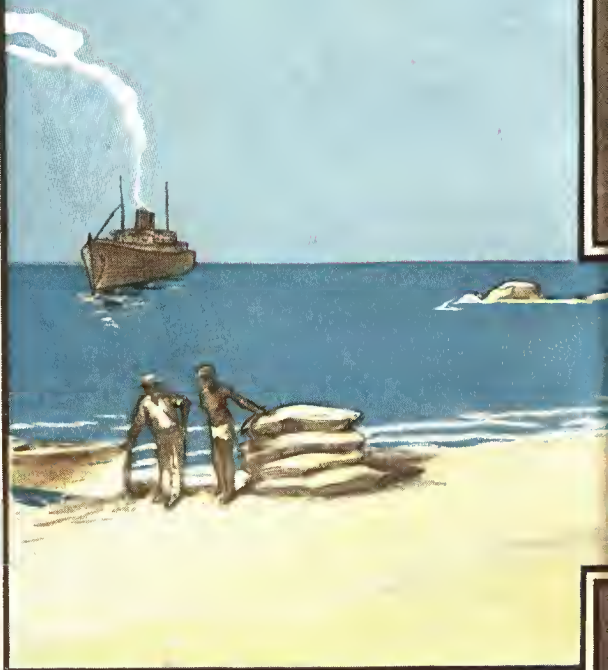
Shellac Headquarters

Orange Gum Shellac, Vac-Dry White Shellac

Bulls Eye Liquid Shellac, Bulls-I-Namel

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